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ANALYSIS OF CONTRACTS AWARDED

CALENDAR YEAR 1967

The attached tabulations are based upon the detailed estimate prepared at the time the contract is awarded. Only contracted items are included. Such items as roadway materials, flagging at railroad locations and construction engineering are excluded from the costs shown.

Cost-per-mile tabulations include all costs attributed to each system, or systems, with the exception of Table 3-A where the cost per mile is computed on a percentage basis for those items involving mileage.

Prepared by

MONTANA HIGHWAY COMMISSION

PLANNING SURVEY SECTION

In Cooperation with

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

BUREAU OF PUBLIC ROADS

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

HELENA, MONTANA

ANALYSIS OF CONTRACTS AWARDED
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

April 1, 1968

TABLE 1

COUNTY AND FINANCIAL DISTRICT	PRIMARY SYSTEM		SECONDARY SYSTEM		INTERSTATE SYSTEM		ALL SYSTEMS	
	MILEAGE	COST	MILEAGE	COST	MILEAGE	COST	MILEAGE	COST
FLATHEAD LAKE		70,578	2,441 4,869	357,620 539,025			2,441 4,869	428,198 539,025
F.D.# 1		70,578	7,310	896,645			7,310	967,223
BLAINE GLACIER HILL TOOLE	5.196	964,109 12,981	1,465 8,759 12,617 5,326	31,027 739,095 239,540 392,360			6,661 8,759 12,617 5,326	995,136 752,076 239,540 493,949
F.D.# 2	5.196	977,090	28,167	1,402,022	101,589		33,363	2,480,701
DANIELS PHILLIPS ROOSEVELT VALLEY		135,370 97,001 14,286	6,983	252,803			6,983	252,803
			10,447	1,350,881			10,447	1,447,882
F.D.# 3		246,657	17,430	1,603,684			17,430	1,850,341
DAWSON MCGONE RICHLAND	.558	110,401 109,131 69,477	7,107 .114	474,634 582,582	8,424	7,173,412	8,982 7,107 .114	7,283,813 583,765 652,059
F.D.# 4	.558	289,009	7,221	1,057,216	8,424	7,173,412	16,203	8,519,637
FERGUS GARFIELD	.229	150,400 1,492,247	6,643	338,942			.229 17,394	150,400 1,831,189
F.D.# 5	10.980	1,642,647	6,643	338,942			17,623	1,981,589

TABLE 1

COUNTY AND FINANCIAL DISTRICT	PRIMARY SYSTEM MILEAGE	SYSTEM COST	SECONDARY SYSTEM MILEAGE	SYSTEM COST	INTERSTATE SYSTEM MILEAGE	SYSTEM COST	ALL SYSTEMS MILEAGE	SYSTEMS COSTS
CASCADE PONDERA	12.918	2,309,346	.781	61,767		154,248	12.918 .781	2,463,594 61,767
F.D.# 6	12.918	2,309,346	.781	61,767		154,248	13.699	2,525,361
BROADWATER JEFFERSON LEWIS & CLARK			.531		3.124 13.819 2.609	1,355,210 7,010,939 1,837,233	3.124 14.350 2.609	1,355,210 7,065,133 1,865,268
F.D.# 7		28,035	.531	54,194	19.552	10,203,382	20.083	10,285,611
GRANITE MINERAL MISSOULA	8.811	1,742,864	3.614	837,150		15,041 13,961 210,961	12.425	15,041 13,961 2,790,975
F.D.# 8	8.811	1,742,864	3.614	837,150		239,963	12.425	2,819,977
BEAVERHEAD MADISON SILVER BOW	1.294 1.015 1.394	538,253 414,283 300,596			5.529	1,741,749	1.294 1.015 6.923	538,253 414,283 2,042,345
F.D.# 9	3.703	1,253,132			5.529	1,741,749	9.232	2,994,881
GALLATIN PARK		6,892			2.357	2,742,288	2.357	2,742,288 6,892
F.D.# 10		6,892			2.357	2,742,288	2.357	2,749,180
BIG HORN CARBON			7.615	812,180 104,630			7.615	812,180 104,630
MISSOULISHELL TREASURE YELLOWSTONE	1.739	422,519	7.847	635,363	10.284	7,643 4,133,037	19.870	7,643 5,190,919
F.D.# 11	1.739	426,982	15.462	1,552,173	10.284	4,140,680	27.485	6,119,835

TABLE 1

COUNTY AND FINANCIAL DISTRICT	PRIMARY SYSTEM		SECONDARY SYSTEM		INTERSTATE SYSTEM		ALL SYSTEMS	
	MILEAGE	COST	MILEAGE	COST	MILEAGE	COST	MILEAGE	COST
CARTER		1,450						1,450
FALLON	5.241	786,390	6.093	170,200			11.334	956,590
POWDER RIVER	8.767	820,013					8.767	820,013
ROSEBUD		4,463	30.570	714,008		5,970	30.570	724,441
F.D.# 12	14.008	1,612,316	36.663	884,208		5,970	50.671	2,502,494
TOTAL	57.913	10,605,548	123.822	8,688,001	46.146	26,503,281	227.881	45,796,830

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS BY SYSTEMS
DURING CALENDAR YEAR 1967

April 1, 1968

TABLE 2

SYSTEM	MILEAGE	TOTAL COST	COST/MILE	MILES OF TRAFFIC	COST/ANNUAL
<u>RURAL</u>					
INTERSTATE RURAL	43.583	24,996,282	573,533	56,313,660	.4438
PRIMARY RURAL	56.569	9,287,295	164,176	17,194,055	.5401
SECONDARY RURAL	120.445	7,985,467	66,300	17,110,105	.4667
SUBTOTAL RURAL	220.597	42,269,044	191,612	90,617,820	.4664
<u>MUNICIPAL</u>					
INTERSTATE MUNICIPAL	2.563	1,506,999	587,982	3,383,185	.4454
PRIMARY MUNICIPAL	1.344	1,318,253	980,843	9,978,735	.1321
SECONDARY MUNICIPAL	3.377	702,534	208,035	2,309,355	.3042
SUBTOTAL MUNICIPAL	7.284	2,825,252	387,871	13,361,920	.2114
TOTAL INTERSTATE	46.146	26,503,281	574,335	59,696,845	.4439
TOTAL PRIMARY	57.913	10,605,548	183,129	30,555,975	.3470
TOTAL SECONDARY	123.822	8,688,001	70,165	19,419,460	.4474
GRAND TOTAL	227.881	45,796,830	200,968	106,289,095	.4308

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

SYSTEM BY TYPE OF CONSTRUCTION

TABLE 3

April 1, 1968

TYPE OF CONSTRUCTION	INTERSTATE			PRIMARY			SECONDARY	
	MILES	COST	COST/MILE	MILES	COST	COST/MILE	MILES	COST
<u>RURAL</u>								
# New Roadway Const. Bridges	43.583	15,145,061 7,930,637	347,958	56.569	7,461,683 1,133,469	131,904	120,445	5,935,280 1,785,189
* Miscel. Items		1,900,584			692,143			264,998
TOTAL		24,996,282			9,287,295			7,985,467
<u>MUNICIPAL</u>								
# New Roadway Const. Bridges	2.563	1,453,266	567,018	1.344	1,266,613	942,420	3.377	666,598
* Miscel. Items		53,733			51,640			35,836
TOTAL		1,506,999			1,318,253			702,534
<u>ALL CONSTRUCTION</u>								
# New Roadway Const. Bridges	46.146	16,418,327 7,930,637	360,125	57.913	8,728,296 1,133,469	150,714	123,822	6,601,978 1,785,189
* Miscel. Items		1,954,317			743,783			300,834
TOTAL		26,503,281			10,605,548			8,688,061

Includes Row Projects

* See Table 3A for summarization of miscellaneous items

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

SUMMARY OF MISCELLANEOUS COSTS

April 1, 1968

TABLE 3A

	INTERSTATE			PRIMARY			SECONDARY		
	MILES	COST	COST/MILE	MILES	COST	COST/MILE	MILES	COST	COST/MILE
Traffic Signs	33.434	222,257	4,013	13.170	80,644	5,235		12,064	
Landscaping	11.139	311,864	17,439	1.521	80,507				
Erosion Control	51.167	183,562		.227	169,519				
*** Minor Structures		129,806			27,983			24,068	
Channelization				.500	60,082		.024	5,903	
Safety Rest Areas & Scenic Overlooks		77,453						80,562	
Comfort & Convenience Fac.		24,136							
Screening Junkyards					20,868				
Highway Lighting	15.537	400,518		1.034	128,350			26,552	
Traffic Signals					54,033			13,132	
Guardrail delineators	7.012	158,280		7.595	17,938				
Fencing	33.819	405,928			2,020				
Improving Sight Dist.					28,035				
Other Items		40,513			73,804			138,553	
TOTAL		1,954,317			743,783			300,834	

* Cost per mile is based on the percent of the total cost involving mileage

** Includes storm sewer, stock passes

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

TABLE 4

April 1, 1968

COST ITEM	INTERSTATE SYSTEM					ALL SURFACES
	GRAVEL	PLANT MIX	CONCRETE	MISCELLANEOUS		
GRADING	MILES COST COST/MILE	1.232 504,123 409,190	5.481 1,053,220 192,158			46.146 7,108,904 154,052
DRAINAGE	MILES COST COST/MILE	1.232 237,169 192,507	5.481 417,383 76,150			46.146 2,711,340 58,756
BASE	MILES COST COST/MILE	1.012 14,017 13,850	4.222 241,153 57,118			44.667 2,405,547 53,855
SURFACE	MILES COST COST/MILE	39.433 3,664,533 92,930	4.895 728,003 148,723			44.328 4,392,536 99,092
C.&S. STRUC.	FEET COST COST/FOOT			15,385 7,930,637 515		15.385 7,930,637 515
MISC.	COST	27,518		1,926,799		1,954,317
ALL ITEMS	MILES COST COST/MILE	1.232 755,309 613,075	5.481 2,439,759 445,130	9,857,436		46.146 26,503,281 574,335

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

TABLE 5

April 1, 1968

COST ITEM	PRIMARY SYSTEM			
	GRAVEL	PLANT MIX	CONCRETE	MISCELLANEOUS
GRADING				
MILES		57.913		57.913
COST	16,353	3,190,453		3,206,806
COST/MILE		55,090		50,286
DRAINAGE				
MILES		57.913		57.913
COST	1,500	1,340,004		1,341,504
COST/MILE		23,138		23,164
BASE				
MILES		57.913		57.913
COST		1,310,675		1,310,675
COST/MILE		22,631		22,631
SURFACE				
MILES		57.913		57.913
COST		2,869,311		2,869,311
COST/MILE		49,545		49,545
C.& S. STRUC.				
FEET				1,967
COST				1,133,469
COST/FOOT				576
MISC.				
COST	21,519	65,250	657,005	743,783
ALL ITEMS				
MILES		57.913		57.913
COST	39,372	8,775,693	1,790,474	10,605,548
COST/MILE		151,532		166,307

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

TABLE 6

April 1, 1968

COST ITEM	SECONDARY SYSTEM			
	GRAVEL	PLANT MIX	CONCRETE	MISCELLANEOUS
GRADING	MILES COST	110.832 1,762,133		123.822 2,066,743
	COST/MILE	15,899		16,691
DRAINAGE	MILES COST	66.839 236,446		79.829 857,672
	COST/MILE	9,294		10,744
BASE	MILES COST	73,876 1,042,418		80.773 1,064,862
	COST/MILE	14,110		13,183
SURFACE	MILES COST	110.832 2,401,220		123.568 2,612,701
	COST/MILE	21,665		21,144
T. T. STRUC.	FEET COST			
	COST/FOOT			5,609
C. & S. STRUC.	FEET COST			
	COST/FOOT			2,368 1,779,580 751
MISC.	COST	91,366		162,281
ALL ITEMS	MILES COST	110.832 5,918,363		123.822 8,688,001
	COST/MILE	53,399		70,165

TABLE 7

SUMMARY BY COST TYPE

	INFRASTRUCTURE SECTION			PROPERTY SECTION			SECONDARY SECTION			ALL SECTIONS		
	PLANS	Total Cost	% of Total	Cost/ Mile	MILES	Total Cost	% of Total	Cost/ Mile	MILES	Total Cost	% of Total	Cost/ Mile
Grading	46.146	7,109,904	26.82	154,052	63.771	3,506,806	30.24	50,286	123,822	2,066,743	23.79	16,691
Drainage	46.146	2,701,340	10.23	58,796	57.913	1,112,504	12.65	23,144	79,869	697,672	9.87	10,714
Lease	46.146	2,403,547	9.08	53,893	57.913	1,110,675	12.35	22,645	80,733	1,064,662	12.25	13,183
Structure	46.146	4,392,938	16.57	99,998	57.913	2,889,311	27.05	49,545	123,568	2,612,701	30.07	21,144
1. S. STRUCT.		7,920,637	29.92			1,333,669	10.68			5,609	0.06	
C. & S. STRUCT.		1,994,317	7.37			712,703	7.01			1,779,380	20.48	
MAINT.										300,834	3.46	
TOTAL	46.146	26,593,763	100.00	571,335	63.771	10,693,948	100.00	186,307	123,822	8,688,001	100.00	70,165
												233,779
												45,798,693
												100.00
												195,931

SUMMARY OF CONTRACT VALUES
 DURING CALENDAR YEAR 1987
 (EXCLUDING OF MAINTENANCE CONTRACTS)

TABLE 8

SUMMARY BY TYPE OF STRUCTURE

BUILDING TYPE	Code	INFRASTRUCTURE SECTION			PROPERTY SECTION			SECONDARY SECTION			ALL SECTIONS		
		No. of Structures	Feet of Structures	Total Cost	No. of Structures	Feet of Structures	Total Cost	No. of Structures	Feet of Structures	Total Cost	No. of Structures	Feet of Structures	Total Cost
Concrete Slab	X200	3	65	103,542	4	295	229,652				7	360	333,194
Steel Girder	X201	1	1,973	1,318,248	1	267	126,217				6	4,013	3,129,179
Prestress. Conc. Gird.	X201	14	2,049	1,322,115		1,392	683,353				28	1,835	2,320,164
Concrete Slab	X220	2	136	76,722							2	136	76,722
Prestress. Girder	X201	8	1,752	898,713		213	114,217				9	1,965	952,930
Concrete Girder	X201	2	186	108,007							2	186	108,007
Prestress. Conc. Gird.	X201	24	4,129	1,720,146							24	4,129	1,720,146
Slab, Girder Overpass	X201	2	702	371,110							2	702	371,110
Prestress. Conc. Gird.	X201	1	461	176,454							1	461	176,454
Prestress. Conc. Decking	X201	7	1,798	646,813							7	1,798	646,813
Steel Girder	X201	2	553	272,015							2	553	272,015
Prestress. Conc. Gird.	X201	2	1,561	728,682							2	1,561	728,682
Slab, Girder	X201							1		5,609	1	20	5,609
TOTAL		68	15,385	7,920,637	14	1,767	1,123,469	11		2,388	93	19,740	10,689,995

MINISTRY OF PLANNING AND
STATISTICS OF MALAYSIA (MAMSTAT)

TABLE 9

EXPENDITURE BY SECTOR AND QUARTER 1967

April 1, 1968

Sector	Date	INDIVIDUAL SECTOR		STRUCTURAL SECTOR		Non-Structural	
		Part of Structure	Total Cost	Part of Structure	Total Cost	Part of Structure	Total Cost
Concrete Slab New construction	1967	65	100,548	255	229,652	778	333,154
Steel Structure New construction	1967	1,973	1,518,248	287	106,247	398	3,003,022
Reinforced Concrete New construction	1967	2,049	1,322,115	1,192	600,253	573	2,200,144
Concrete Slab New construction	1967	156	76,722	478	144,217	156	76,722
Reinforced Concrete New construction	1967	1,732	838,713	213	144,217	1,955	952,930
Concrete Slab New construction	1967	186	108,007	580	108,007	186	108,007
Reinforced Concrete New construction	1967	4,129	1,700,146	419	1,700,146	4,129	1,700,146
Reinforced Concrete New construction	1967	702	371,140	702	371,140	702	371,140
Reinforced Concrete New construction	1967	461	176,494	461	176,494	461	176,494
Reinforced Concrete New construction	1967	1,798	644,413	380	644,413	1,798	644,413
Reinforced Concrete New construction	1967	553	272,015	553	272,015	553	272,015
Reinforced Concrete New construction	1967	1,561	728,682	1,561	728,682	1,561	728,682
Reinforced Concrete New construction	1967	20	5,609	20	5,609	20	5,609
Total New construction Building	1967	15,385	7,920,637	515	2,700,267	644,316	10,112,918

MONTANA STATE HIGHWAY COMMISSION
PLANNING SURVEY SECTION

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

TABLE 10

April 1, 1968

NO. LANES	MILES	COST	COST/MILE
INTERSTATE SYSTEM			
2		29,085	
4	46.146	26,474,196	573,738
TOTAL	46.146	26,503,281	574,556
PRIMARY SYSTEM			
2	56.569	9,784,224	172,960
4	1.344	821,324	611,104
TOTAL	57.913	10,605,548	183,129
SECONDARY SYSTEM			
2	123.822	8,672,545	70,040
4		15,456	
TOTAL	123.822	8,688,001	70,152
ALL SYSTEMS			
2	180.391	18,485,854	102,476
4	47.490	27,312,534	575,121
TOTAL	227.881	45,796,830	200,968

SUMMARY OF CONTRACT AWARDS
DURING CALENDAR YEAR 1967
(EXCLUSIVE OF MAINTENANCE CONTRACTS)

TABLE 11

April 1, 1968

SYSTEM BY AVERAGE DAILY TRAFFIC

INTERSTATE SYSTEM

PRIMARY SYSTEM

Average Daily Traffic	Mileage	Cost	Cost Per Mile	Average Daily Traffic	Mileage	Cost	Cost Per Mile
00- 999	.770	\$ 9,709,771	\$ 12,612,115	00- 99	1,923	\$ 1,858,263	\$ 966,335
1100-1199	2,609	1,451,199	556,228	00- 99	2,668	661,353	246,039
1200-1299	3,524	1,480,429	420,099	100- 199	8,767	779,023	88,858
1300-1399	11,233	3,511,325	312,590	200- 299	1,022	176,257	172,462
1400-1499	4,812	1,758,804	365,503	300- 399	9,958	1,344,059	134,972
1600-1699	5,483	2,274,525	414,832	700- 799	1,739	324,942	186,855
1800-1899	97,015	979,513	313,544	800- 899	5,196	937,833	180,491
2200-2299	3,124	154,248	790,422	900- 999	5,241	667,997	127,456
2400-2499	1,098	867,884	470,501	1200-1299	7,590	1,399,631	184,404
2500-2599	1,259	592,362	231,220	1600-1699	10,995	1,587,061	144,343
3300-3399	5,529	1,278,416	350,155	2900-2999	.558	26,949	197,851
5900-5999	6,705	2,347,790		6800-6899		110,401	
6800-6899				7800-7899		29,724	
				10900-10999	2,236	702,955	313,978
Total	46,146	26,503,281	574,369	Total	57,913	10,605,548	183,128

SECONDARY SYSTEM

00- 99	\$ 1,993,726	\$ 50,127
00- 99	2,496,929	
100- 199	46,975	33,650
200- 299	16,850	96,959
300- 399	.531	51,829
3500-3599	1,807	97,606
4200-4299	400,657	221,724
	7,847	67,589
Total	123,822	8,688,001
		70,165

